PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: HIGH-THROUGHPUT MULTICARRIER COMMUNICATION SYSTEMS AND METHODS FOR EXCHANGING CHANNEL STATE

Page 2

Docket No: 884.B95US1

INFORMATION

Assignee: Intel Corporation

IN THE SPECIFICATION

Please amend the specification as follows:

Please amend the paragraph beginning at page 15, line 27, as follows:

The high-throughput portion of the frames may include a channelization field (CHF), such as CHFs 414, 514, 614, 814 and 914, a training field, such as training fields 416, 516, 616, 816 and 916, a high-throughput header field, such as high-throughput header fields 418, 518, 618, 718, 818 and 918, and a high-throughput data field, such as high-throughput data fields 620, 720 and 820, depending on the frame type. The high-throughput portion may be used for training processes and for data transmission at high data rates. Fields in the high-throughput portion may be provided to perform high-throughput channel estimation, fine synchronization and fast-link adaptation training for WB, MIMO or WB-MIMO channels. The frequency-space configuration of the high-throughput data field may depend on the mode of operation of a high-throughput station. The type of particular high-throughput training may depend on the mode of operation and MAC type of particular frame and MAC type.

Please amend the paragraph beginning at page 16, line 18, as follows:

In some embodiments, the training symbols may also be used for preliminary synchronization. During reception of the SCF, a receiving station may perform preliminary automatic gain control (AGC) convergence, timing acquisition, and/or frequency acquisition. Depending on a frame type and interfering environment, the SCF may be transmitted <u>over</u> the compatibility channel. In alternate embodiments, the SCF may be replicated in the frequency domain thus being transmitted over several or all the subchannels. This may reduce overhead in frame 702 for a pure WB mode.

PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: HIGH-THROUGHPUT MULTICARRIER COMMUNICATION SYSTEMS AND METHODS FOR EXCHANGING CHANNEL STATE

Page 3

Docket No: 884,B95US1

INFORMATION

Assignee: Intel Corporation

Please amend the paragraph beginning at page 25, line 9, as follows:

In some embodiments, high-throughput data field 720 may also be present in frame 702 for CTS and ACK frames of any MAC type, although the scope of the invention is not limited in this respect.

Please amend the paragraph beginning at page 30, line 29, as follows:

In some embodiments, high-throughput training <u>may</u> be <u>use</u> <u>used</u> to perform WB training in each spatial channel. The frequency channelization of training is indicated by the frequency channelization parameter in CHF 614, although the scope of the invention is not limited in this respect.

Please amend the paragraph beginning at page 32, line 3, as follows:

FIG. 11 illustrates <u>initial</u> training symbol transmission in accordance with some embodiments of the present invention. Initial MIMO training may comprise training symbols 1100 spread among transmitting antennas during transmission of MIMO initial training fields, such as fields 416 (FIGs. 4A and 4B). In some embodiments, the training symbols may be transmitted on some subcarriers 1104 and on certain antennas during time intervals 1102. For example, training symbols for a first antenna (e.g., antenna #1) may be transmitted on a first group of subcarriers 1106 during first time interval 1114, training symbols for the first antenna may then be transmitted on a second group of subcarriers 1108 during second time interval 1116, training symbols for the first antenna may then be transmitted on a third group of subcarriers 1110 during third time interval 1118, and training symbols for the first antenna may then be transmitted on a fourth group of subcarriers 1112 during fourth time interval 1120. The four groups of subcarriers may together comprise all the subcarriers of a subchannel. This pattern may be repeated for each transmit antenna as illustrated.